

AMENDMENTS TO THE SPECIFICATION

Please change the title of the present application to “Fuel Cell Vehicle”.

On page 2, please replace the paragraph starting at line 2 with the following:

As a fuel cell vehicle provided with such a fuel cell as a source of motive power, heretofore there is known a fuel cell vehicle, fitted with a capacitor comprising for example an electric double layer capacitor or an electrolytic capacitor or the like, and constructed so as to store the electrical energy generated by the fuel cell, and transfer electrical energy to the propulsion motor (see, for example, Patent document 1 Japanese Unexamined Patent Application, First Publication No. 2001-357865).

On page 4, please replace the paragraph starting at line 4 with the following:

To solve the aforementioned problems and achieve the related object, a ~~control apparatus for a fuel cell vehicle~~ according to a first aspect of the present invention is a control apparatus for a fuel cell vehicle provided with; a propulsion motor capable of driving the vehicle, a fuel cell supplied with a reactant gas to generate power from an electrochemical reaction, a capacitor charged with generated power of said fuel cell and regenerative electric power of said propulsion motor, and a reactant gas supply device (for example the S/C output controller 17, the air compressor 18, the hydrogen tank 19a, the hydrogen supply valve 19b, and the control apparatus 20 in the embodiment) which supplies said reactant gas to said fuel cell; characterized in comprising: a ~~power generation start device~~ control apparatus (for example, step S01 in the embodiment) which drives said reactant gas supply device with power supplied from said capacitor to start power generation of said fuel cell, when said fuel cell vehicle is started, wherein said control apparatus estimating an output voltage of said fuel cell, said voltage being reduced when a current is supplied to said propulsion motor from said fuel cell; a capacitor charging device (for example, step S03 in the embodiment) which charges said capacitor by the power generated by said fuel cell when a terminal voltage has dropped due to supply of power to

said reactant gas supply device; ~~an output voltage estimating device (for example, step S04 in the embodiment) which estimates the output voltage of said fuel cell which drops when power is supplied to said propulsion motor from said fuel cell following commencement of power generation by said fuel cell;~~ a terminal voltage detecting device (for example, the capacitor voltage sensor 24 in the embodiment) which detects the terminal voltage of said capacitor; and a propulsion motor drive permitting device (for example, step S05 and step S06 in the embodiment) which permits power supply from said fuel cell to said propulsion motor when said capacitor terminal voltage is detected to be equal to or greater than the estimated output voltage estimated by said ~~output voltage estimating device~~control apparatus.

On page 5, please replace the paragraph starting at line 8 with the following:

According to the ~~control apparatus for a fuel cell vehicle of the above configuration,~~ when the fuel cell vehicle is started, the power generation start device first operates the reactant gas supply device by power supply from the capacitor, so that the reactant gas is supplied to the fuel cell, and generation of power commences. Here, the ~~output voltage estimating device~~control apparatus estimates the output voltage of the fuel cell for when, in a condition with for example the current value of the output current of the fuel cell restricted to less than the predetermined value including zero, power is supplied to the propulsion motor from the fuel cell corresponding for example to operation of the accelerator by the operator, and the fuel cell vehicle moves. In other words, the ~~output voltage estimating device~~control apparatus estimates, the amount of power flowing to the propulsion motor, and the drop in output voltage, based on the output voltage of the fuel cell detected prior to commencement of the flow of power to the propulsion motor from the fuel cell, and the amount of accelerator operation by the operator.

On page 6, please replace the paragraph starting at line 13 with the following:

Furthermore, a ~~control apparatus for a fuel cell vehicle according to a second aspect of the present invention,~~ is characterized in that the ~~output voltage estimating device~~control

apparatus estimates said estimated output voltage based on a predetermined accelerator opening related to an accelerator operation amount ~~by a driver of the vehicle.~~

On page 6, please replace the paragraph starting at line 17 with the following:

~~According to the control apparatus for a fuel cell vehicle of the above configuration, the output voltage estimating device~~control apparatus estimates the estimated output voltage of the fuel cell following commencement of the flow of power to the propulsion motor, based on, for example, the accelerator operation amount by the operator when the fuel cell vehicle was last started, a history of the accelerator operation amount by the operator for when the fuel cell vehicle was started prior to the last start, or a predetermined accelerator operation amount (for example, the accelerator operation amount corresponding to an accelerator opening of 100% or 50%, with 100% as fully open).

On page 15, please replace the paragraph starting at line 16 with the following:

In step S03, the duty ratio of the control pulse input to the current and voltage controller 12 is set appropriately to between 0% and 100%, the output current of the fuel cell 11, being the primary current, is restricted appropriately corresponding to the duty ratio of this control pulse, and the restricted current is supplied to the capacitor 13 side as the secondary current. Here, the power generation command for the fuel cell 11, in other words, the current command CI for the output current of the fuel cell 11, is set such that, for example, as shown in FIG. 4, it changes corresponding to the temperature TW of the coolant for cooling the fuel cell 11, and such that, for example, when the temperature TW of the coolant increases to a predetermined temperature #T, the current command CI increases to a predetermined upper limit #I.

Please replace the Abstract with the following:

A fuel cell vehicle can reduce the starting time while protecting the fuel cell. When starting the vehicle, a control apparatus execute an idle charging an output voltage (estimated output voltage) of the fuel cell immediately after the vehicle commences movement, in the condition where, while in the idle charging state at the time of starting the fuel cell vehicle, e.g., the state wherein generation of power by the fuel cell continues, and the value of the output current extracted from the fuel cell is being restricted to an appropriate value by a current and voltage controller, a capacitor is being charged with the restricted current. Then, the control apparatus, when detecting that the increased terminal voltage of the capacitor due to charging from the fuel cell has gone above the estimated output voltage, outputs to an output controller a control command to start power supply to a propulsion motor.